

Figure 1.

2/20

Peptide 1 KVTIFFGTQK

Peptide 2 KVVDLDDYAADDDEFEEK
EPeptide 3 KWFTEVAK
D

Peptide 4 KVVDEIIVEK

Peptide 5 KYADLLNFPK

Peptide 6 KAALHALAK

Peptide 7 KDVHRTLHTIVQEQGSLDSSK

Figure 2.

0005 857 2's OTANTO

3/20

Arabidopsis thaliana ..350 GSPLES-AVPPPPFPGPCT
Catharanthus roseus ..389 GTPLAGSSLPFFFP-PCT
Helianthus tuberosus ..331 GTPLGGPTLQPPFP-PCT
Vigna radiata ..366 GTSLGG-SLLPPFPGPS
Vicia sativa ..367 GTSLGG-SLLPPFPGPCT
 * . * . . **** * .

LGTGLARYADLLNPPRKSALVALAAYATEPSEAEXLKHLTSPDGKD
 LRTALTRYADLLNTPKKSALLALAAYASDPNEADRLKYLASPAKGD
 LRKALTNYADLLSSPKKSTLLALAHAASDATEADRLQFLASREGKD
 LRTALARYADLLNPPRKAALLALATHASEPS-DERLKFLSSPQGD
 VRTALACYADLLNPPRKAIVALAHAASEPSEAERLKLFLSSPQGD
 . * **** * . * . * . * . * . * . * .

EYSQWIVASQRSLLLEVMAAFPSAKPPLGVFFAAIAPRLQPRYYSIS
 EYAQSLVANQRSLLLEVMAEFPSAKPPLGVFFAAIAPRLQPRFYSIS
 EYAEWIVANQRSLLLEVMAEFPSAKPPLGVFFAAIAPRLQPRYYSIS
 EYSKWVVGQSQRSLLLEVMAEFPSAKPPLGVFFAAIAPRLQPRYYSIS
 EYSKWVVGQSQRSLLLEVMAEFPSAKPPLGVFFAAIAPRLQPRYYSIS
 ** . * **** . **** ***** . ****

SCQDWAPSRVHVTSALVYGPTPTGRIHKGVCSTWMKNAV 498..
 SSPRMAPSRIHVTCALVYEKTPGGRIHKGVCSTWMKNAIP 537..
 SSPKMVPNRIHVTCALVYEKTPGGRIHKGICSTWMKNAV 479..
 SSPRFAPQRVHVTCALVYGPTPTGRIHKGVCSTWMKNAIP 513..
 SSPRPAPQRVHVTCALVEGPTPTGRIHKGVCSTWMKSATP 515..
 * . * * . **** . * . * . * . * . * . * .

Figure 3.

4/20

Kb

7.2

6.4

4.8

3.7

2.3

1.9

1.3

0.7

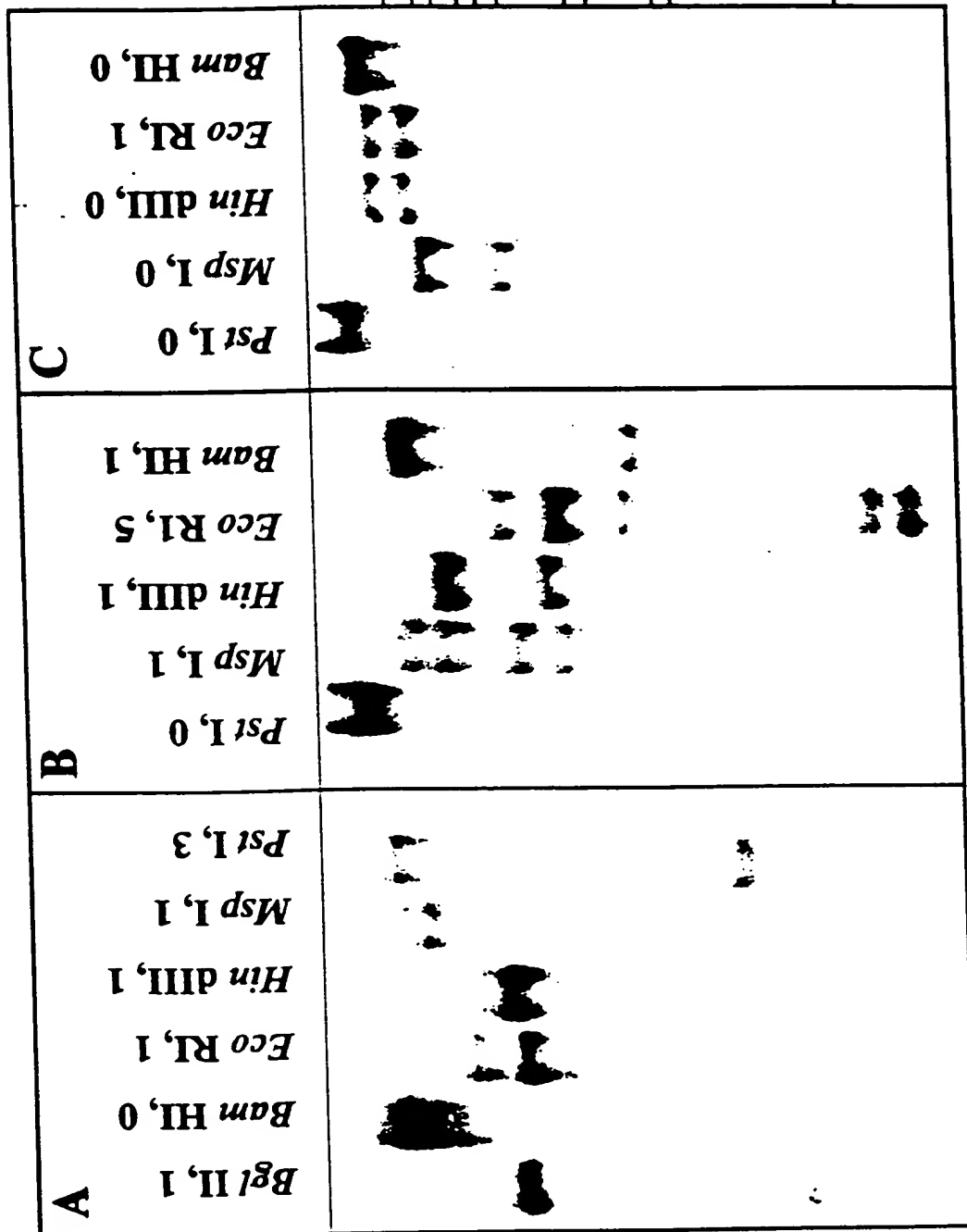


Figure 4.

000000" 06/09/90

```

1      50
MEQTAVKVSL FDLFSSILNG KLDPSNFSSD SSAAILIENR EILMILTTAI
MGSNNLANSI ESMLG.ISIG ....SEYISD P..... IFIMVTTVA
*      *      *      *      *      *      *      *
51      100
AVFIGCGFLY VWRSSNKSS KIVETQKLIV EKEPE.PEVD DGKKKVTIFF
SMLIGFGFFV CMK.SSSSQS KPIETYKPII DKEEEEIEVD PGKIKLTIFF
** **      ** *      *      *      *      *      *
101      150
GTQTGTAE GF AKALAE EAKA RYEKAIFKVI DLDDYGADDD EFEEKLKKET
GTQTGTAE GF AKALAE EIKA KYKKA VVKV DLDDYAAEDD QYEEKLKKES
*****      *      *      *      *      *      *
151      200
IALFFLATYG DGEPTDNAAR FYKWFTGEGE REMWLQNLQF GVFGGLGNRQY
LVFFMVATYG DGEPTDNAAR FYKWFTQEHE RGEWLQQLTY GVFGGLGNRQY
*      ****      *      *      *      *      *      *
201      250
EHFNKVAKEV DEILTEQGGK RIVPVGLGDD DQCIEDDFTA WRELVPWELD
EHFNKIAVDV DEQLGKQGAK RIVQVGLGDD DQCIEDDFTA WRELLWTELD
*****      *      *      *      *      *      *
251      300
QLLLDESDKT SVSTPYTAIV PEYRVVFHDA TDASLQDKNW SNANGYTVYD
QLLKDEDAAP SVATPYIATV PEYRVVIHET TVAALDDKHI NTANGDVAFD
*** **      *      *      *      *      *      *
301      350
VQHPCRANVV VKKELHTPVS DRSCIHLEFD ISGTGLTYET GDHVGVIYSEN
ILHPCRTIVA QQRELHKPKS DRSCIHLEFD ISGSSLTJET GDHVGVIYSEN
**** *      *      *      *      *      *
351      400
CVEVVEEAER LLGYSSDTVF SIHVDKEDGS PISGSALAPP FPTPCTLRTA
CDETVEEAGK LLGQPLDLLF SIHTDKEDGS PQGSS..LPP FPGPCTLRSA
*      ****      *      *      *      *      *      *
401      450
LTRYADLLNS PKKAALHALA AYASDPKEAE RLRYLASPAG KDEYAQWIVA
LARYADLLNP PRKASLIALS AHASVPSEAE RLRLSSPLG KNEYSKWVVG
*      *      *      *      *      *      *
451      500
SQRSLLVVMA EFPSAKAPIG VFFAAVAPRL LPRYYSISS NRMVPSRIHV
SQRSLLEIMA EFPSAKPPLG VFFAAVAPRL PPRYYSISS PKFAPSRIHV
*****      *      *      *      *      *      *
501      550
TCALVHEKTP AGRVHKGVCS TWMKNSVSLE ENHDCSSWAP IFVRQSNFKL
TCALVYGQSP TGRFHRGVCS TWMKHAVPQD S.....WAP IFVRTSNFKL
*****      *      *      *      *      *      *
551      600
PADSTVPIIM IGPGTGLAPF RGFMQERLAL KNSGVELGPA ILFFGCRNRQ
PADPSTPIIM VGPGTGLAPF RGFLQERMAL KENGAQLGPA VLFFGCRNRN
***      ****      *      *      *      *      *
601      650
MDYIYEEELN NFVKEGAISE VVVAFSREGA TKEYVQHKMA EKASYIWEMI
MDFIYEDELN NFVERGVISE LVIAFSREGE KKEYVQHKMM EKATDVWNVI
**      ***      *      *      *      *      *
651      700
SQGAYLYVCG DAKGMARDVH RTLHTIAEQE GSLDNSKTES LVKNLQMDGR
SGDGYLYVCG DAKGMARDVH RTLHTIAEQE GSMESSAAEA AVKKLQVEER
*      *      *      *      *      *      *
701
YLRDVW
YLRDVW
*****

```

Figure 5.

TGATAGATTGTACCTAAAGATTCTTGGCCTACCGAGAGGAGTATATTAAATGCATTTAGAGTTTTTGAGAAAAA

[illegible]

[illegible]

Figure 6b.

8/20

Heterologous Expression of P-450 Reductases

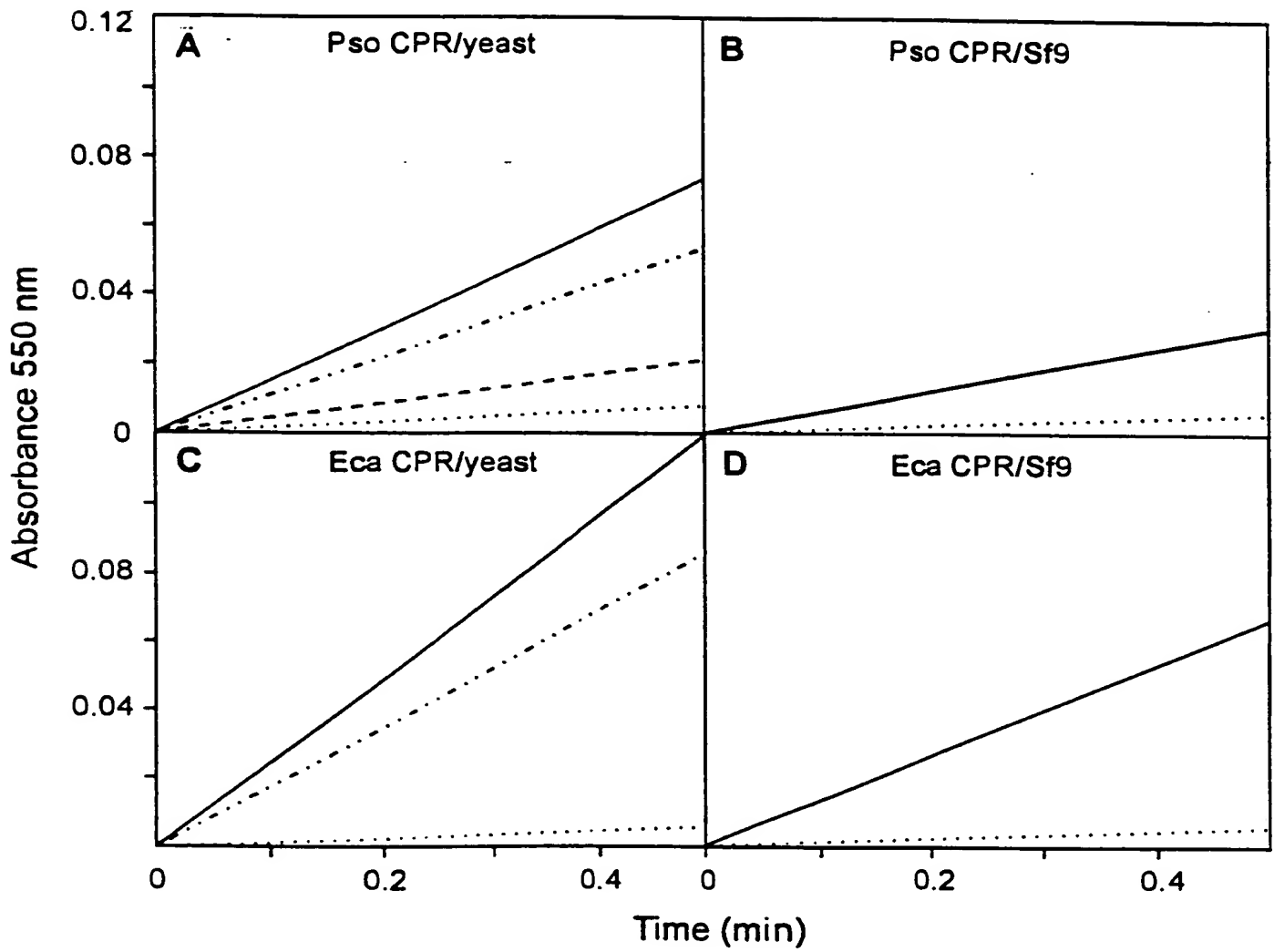


Figure 7.

$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$

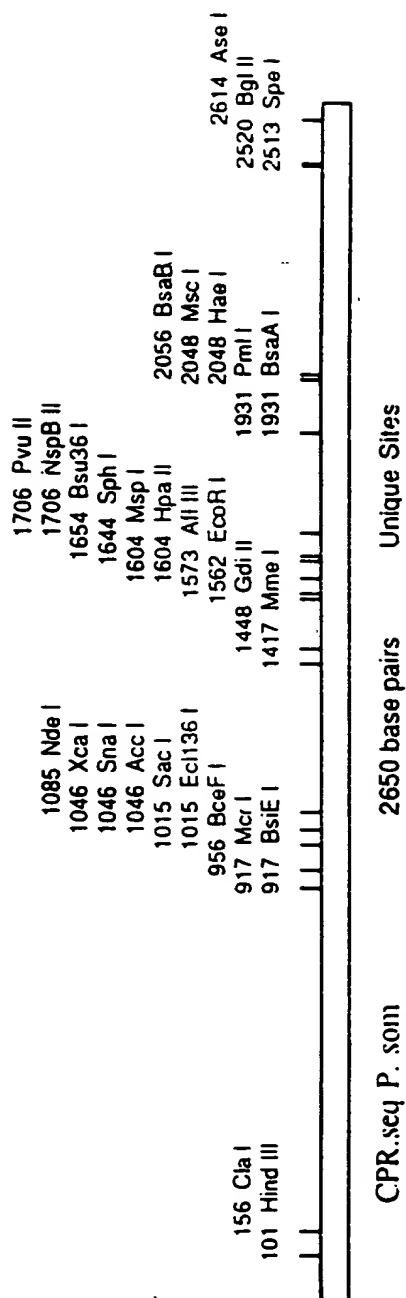


Figure 8a.

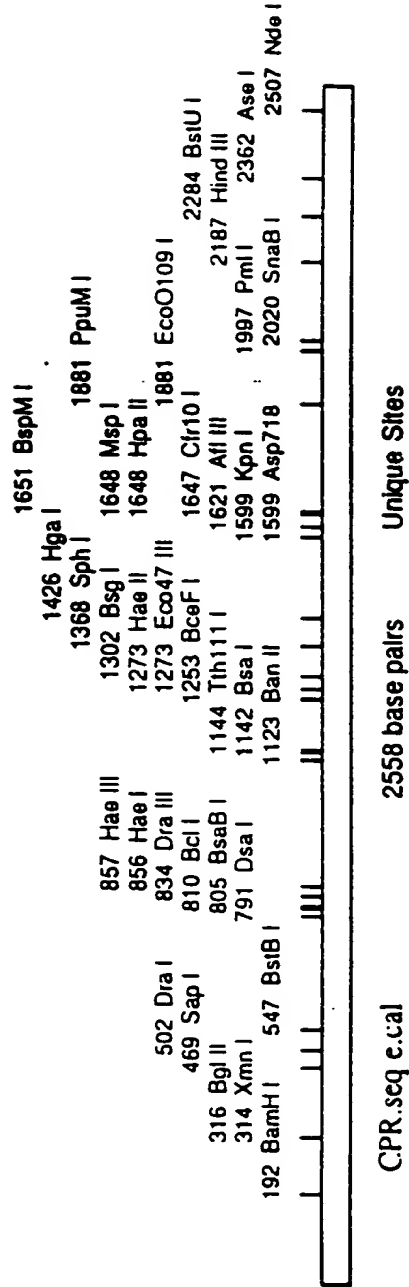


Figure 8b.

1/1 31/11
 CGG CAC GAG CTT GTT AGT ATC TTC TAG GGT TTG AAA AGA AGC ACA GGG AGA AGC AAA AGT
 R H E L V S I F * G L K R S T G R S K S

61/21 91/31
 CGA ATC TAC TTG AAA TAC ATT CGA TTG CTT CTC TCT GTT TAA GCT TCA GAG TCT CTG CTA
 R I Y L K Y I R L L L S V * A S E S L L

121/41 151/51
 ATT ATG GGT TCG AAT AAT TTA GCT AAT TCG ATT GAA TCG ATG TTA GGA ATA TCA ATA GGA
 I M G S N N L A N S I E S M L G I S I G

181/61 211/71
 TCA GAA TAT ATT TCT GAC CCA ATT TTC ATT ATG GTC ACA ACT GTA GCT TCA ATG CTG ATT
 S E Y I S D P I F I M V T T V A S M L I

241/81 271/91
 GGA TTT GGT TTC TTC GCA TGT ATG AAA TCT TCG TCT TCT CAA TCA AAA CCT ATT GAA ACT
 G F G F F A C M K S S S S Q S K P I E T

301/101 331/111
 TAT AAA CCA ATA ATT GAT AAA GAA GAA GAG GAG ATT GAA GTT GAT CCT GGT AAA ATT AAG
 Y K P I I D K E E E E I E V D P G K I K

361/121 391/131
 CTC ACT ATA TTT TTT GGT ACT CAG ACT GGT ACT GCT GAA GGA TTT GCT AAG GCA TTG GCA
 L T I F F G T Q T G T A E G F A K A L A

421/141 451/151
 GAA GAA ATT AAG GCA AAG TAC AAG AAA GCA GTT GTT AAA GTA GTT GAC CTG GAT GAC TAT
 E E I K A K Y K K A V V K V V D L D D Y

481/161 511/171
 GCA GCC GAG GAT GAT CAA TAT GAA GAG AAA TTA AAG AAA GAG TCT TTG GTG TTT TTC ATG
 A A E D D Q Y E E K L K K E S L V F F M

541/181 571/191
 GTA GCC ACT TAT GGT GAT GGT GAG CCA ACT GAC AAT GCT GCG AGA TTT TAC AAA TGG TTC
 V A T Y G D G E P T D N A A R F Y K W F

601/201 631/211
 ACT CAG GAA CAT GAA AGG GGA GAG TGG CTT CAG CAA CTA ACT TAT GGT GTT TTT GGT TTG
 T Q E H E R G E W L Q Q L T Y G V F G L

661/221 691/231
 GGT AAC CGT CAA TAC GAG CAT TTC AAC AAG ATC GCG GTA GAT GTG GAT GAG CAA CTC GGT
 G N R Q Y E H F N K I A V D V D E Q L G

721/241 751/251
 AAA CAA GGT GCA AAG CGC ATT GTT CAA GTG GGG CTC GGT GAC GAT GAT CAA TGC ATT GAA
 K Q G A K R I V Q V G L G D D D Q C I E

781/261 811/271
 GAT GAT TTT ACT GCT TGG CGA GAA TTG TTG TGG ACT GAA TTG GAT CAG TTG CTC AAA GAT
 D D F T A W R E L L W T E L D Q L L K D

841/281 871/291
 GAG GAT GCT GCT CCT TCA GTG GCT ACA CCG TAT ATT GCT ACT GTT CCT GAA TAC AGG GTA
 E D A A P S V A T P Y I A T V P E Y R V

901/301 931/311
 GTG ATT CAC GAA ACT ACG GTC GCG GCT CTG GAT GAT AAA CAC ATA AAT ACT GCT AAC GGC
 V I H E T T V A A L D D K H I N T A N G

961/321 991/331
 GAT GTT GCA TTT GAT ATT CTC CAT CCT TGC AGA ACC ATT GTT GCT CAA CAA AGA GAG CTC
 D V A F D I L H P C R T I V A Q Q R E L

1021/341 1051/351

Figure 9a.

12/20

CAC AAA CCC AAG TCT GAT AGA TCC TGT ATA CAT CTG GAG TTC GAC ATA TCA GGC TCT TCC	1111/371
H K P K S D R S C I H L E F D I S G S S	
1081/361	
CTT ACA TAT GAG ACT GGA GAT CAT GTT GGT GTT TAT GCT GAG AAC TGC GAT GAA ACT GTC	1171/391
L T Y E T G D H V G V Y A E N C D E T V	
1141/381	
GAG GAA GCA GGG AAG CTG TTG GGT CAA CCC CTG GAT TTG CTG TTT TCA ATT CAC ACG GAT	1231/411
E E A G K L L G Q P L D L L F S I H T D	
1201/401	
AAA GAA GAC GGG TCA CCC CAG GGA AGC TCA TTA CCA CCT CCT TTC CCA GGT CCT TGC ACC	1291/431
K E D G S P Q G S S L P P P F P G P C T	
1261/421	
TTA CGA TCT GCC CTA GCA CGC TAT GCT GAT CTT TTG AAT CCT CCT AGA AAG GCT TCT CTG	1351/451
L R S A L A R Y A D L L N P P R K A S L	
1321/441	
ATT GCT CTG TCC GCT CAT GCA TCT GTA CCC AGT GAA GCA GAG AGA TTG CGC TTT TTG TCA	1411/471
I A L S A H A S V P S E A E R L R F L S	
1381/461	
TCA CCT CTG GGA AAG AAT GAG TAT TCA AAA TGG GTA GTT GGA AGT CAG AGG AGT CTT TTG	1471/491
S P L G K N E Y S K W V V G S Q R S L L	
1441/481	
GAG ATC ATG GCC GAG TTT CCA TCA GCA AAA CCC CCT CTT GGT GTT TTC TTT GCT GCA GTA	1531/511
E I M A E F P S A K P P L G V F F A A V	
1501/501	
GCC CCT CGC TTA CCG CCT CGA TAC TAT TCT ATC TCA TCC TCT CCT AAG TTT GCT CCC TCA	1591/531
A P R L P P R Y Y S I S S S P K F A P S	
1561/521	
AGA ATT CAT GTG ACG TGT GCT TTA GTA TAT GGT CAA AGC CCT ACC GGA AGG GTT CAC CGA	1651/551
R I H V T C A L V Y G Q S P T G R V H R	
1621/541	
GGA GTG TGT TCG ACA TGG ATG AAG CAT GCA GTT CCT CAG GAT AGC TGG GCT CCT ATT TTT	1711/571
G V C S T W M K H A V P Q D S W A P I F	
1681/561	
GTT CGA ACG TCA AAC TTC AAG TTA CCA GCT GAC CCC TCA ACT CCA ATT ATC ATG GTG GGA	1771/591
V R T S N F K L P A D P S T P I I M V G	
1741/581	
CCT GGT ACA GGG TTA GCT CCT TTC AGA GGA TTT CTG CAG GAA AGA ATG GCC CTC AAG GAA	1831/611
P G T G L A P F R G F L Q E R M A L K E	
1801/601	
AAT GGT GCT CAA CTT GGC CCA GCA GTG CTC TTT TTC GGA TGT AGG AAT CGT AAT ATG GAC	1891/631
N G A Q L G P A V L F F G C R N R N M D	
1861/621	
TTC ATT TAT GAA GAC GAA CTA AAC AAC TTC GTG GAA CGA GGA GTA ATT TCG GAG CTA GTT	1951/651
F I Y E D E L N N F V E R G V I S E L V	
1921/641	
ATT GCC TTT TCA CGT GAA GGG GAA AAG AAG GAA TAT GTT CAA CAT AAG ATG ATG GAG AAA	2011/671
I A F S R E G E K K E Y V Q H K M M E K	
1981/661	
GCA ACG GAT GTA TGG AAT GTG ATA TCA GGG GAC GGT TAT CTC TAT GTG TGT GGT GAT GCC	2071/691
A T D V W N V I S G D G Y L Y V C G D A	
2041/681	

Figure 9a (cont.).

13/20

AAG GGA ATG GCC AGA GAT GTC CAT CGC ACG TTG CAT ACC ATT GCC CAA GAA CAG GGA CCC
K G M A R D V H R T L H T I A Q E Q G P
2101/701 2131/711
ATG GAA TCA TCT GCT GCC GAA GCT GCA GTA AAG AAA CTC CAA GTT GAA GAA CGA TAT CTA
M E S S A A E A A V K K L Q V E E R Y L
2161/721 2191/731
AGA GAT GTC TGG TGA TCG AAT GTA GCT TGC CAA GTC CCC TTT TCT TGG CTG GTC TGT TTA
R D V W * S N V A C Q V P F S W L V C L
2221/741 2251/751
TGG TTT CTA TTA TAT TAT TGA TCC TCC TCT GAA AAT CCC AAG CAC TTC CAG ACA TCC CTC
W F L L Y Y * S S S E N P K H F Q T S L
2281/761 2311/771
GAT TCT TCC TCC AGT GGT TCC AAA TCG AAG CTC GGT ATA ATT GAG AGC AGT GCA ATT GTG
D S S S S G S K S K L G I I E S S A I V
2341/781 2371/791
ACT ACA TGA GAA GCA AAC ATC GAA TAC CAT AGA ATT AGA AAG ATC AAA ATT CTC TTA TCA
T T * E A N I E Y H R I R K I K I L L S
2401/801 2431/811
GAA CAA TGT TAC AGG CAA AAC TGT GTT TGC TTA ATA TAA ATT TCA CAC CAT GGG TGT GGA
E Q C Y R Q N C V C L I * I S H H G C G
2461/821 2491/831
CAA CAC TGA AAC AGT ATT AGC TAT ACC AAC AAA GTT ATG CAA GGA AAC ACA AAC TAG TTA
Q H * N S I S Y T N K V M Q G N T N * L
2521/841 2551/851
GAT CTT CTC TTT GGA TTG ATT ACT GTA AGT TCT AAC CAG ATG ATA GAT TGT ACT TAA AGA
D L L F G L I T V S S N Q M I D C T * R
2581/861 2611/871
TTC TTG TTT TCT TAT GGC TAC CGA GAG GAG TAT ATT AAT GCA TTT AGA GTT TTG AGA AAA
F L F S Y G Y R E E Y I N A F R V L R K
2641/881
AAA AAA AAA A
K K K

Figure 9a (cont.).

14/20

1/1
TTC TTC TTC CAA TCG CAT TCG AGA AAA TTC AAT CAT CTT CAA CTT CAG GAA GAA GAA TCA
F F F Q S H S R K F N H L Q L Q E E E S
61/21
TCA GAA ACA CTG AAG CTC ATC ATC ATC CTT GAA ACT TAT CGT CTT TGT TTG ACC TTT TGA
S E T L K L I I I L E T Y R L C L T F *
121/41
AAA ACT ATG GAA CAA ACT GCG GTT AAA GTC TCT TTG TTT GAT CTA TTT TCT TCG ATA CTT
K T M E Q T A V K V S L F D L F S S I L
181/61
AAT GGA AAG TTG GAT CCG TCG AAC TTT TCT TCA GAT TCA AGT GCT GCT ATT TTG ATT GAA
N G K L D P S N F S S D S S A A I L I E
241/81
AAT CGT GAG ATT TTA ATG ATC TTA ACA ACT GCT ATT GCT GTT TTT ATC GGT TGT GGT TTT
N R E I L M I L T T A I A V F I G C G F
301/101
CTC TAC GTT TGG AGA AGA TCT TCA AAT AAG TCG AGT AAA ATT GTT GAA ACT CAG AAA TTG
L Y V W R R S S N K S S K I V E T Q K L
361/121
ATC GTT GAA AAG GAA CCA GAA CCT GAA GTT GAT GAT GGA AAG AAG AAG GTT ACT ATC TTC
I V E K E P E P E V D D G K K K V T I F
421/141
TTT GGT ACT CAA ACT GGT ACA GCT GAA GGA TTC GCA AAG GCA CTT GCT GAA GAA GCA AAA
F G T Q T G T A E G F A K A L A E E A K
481/161
GCA AGA TAT GAA AAG GCA ATC TTT AAA GTG ATT GAT CTG GAT GAT TAC GGA GCA GAT GAT
A R Y E K A I F K V I D L D D Y G A D D
541/181
GAT GAA TTC GAA GAG AAA TTG AAA AAG GAA ACT ATA GCT CTT TTC TTT TTG GCT ACC TAT
D E F E E K L K K E T I A L F F L A T Y
601/201
GGA GAT GGT GAA CCT ACA GAT AAT GCT GCA AGA TTT TAT AAA TGG TTC ACA GAG GGA GAG
G D G E P T D N A A R F Y K W F T E G E
661/221
AGG GAA ATG TGG CTC CAG AAT CTT CAA TTT GGT GTC TTC GGT CTA GGC AAT AGA CAG TAT
R E M W L Q N L Q F G V F G L G N R Q Y
721/241
GAG CAT TTC AAT AAG GTG GCA AAG GAG GTG GAC GAG ATA CTC ACT GAA CAG GGT GGG AAG
E H F N K V A K E V D E I L T E Q G G K
781/261
CGT ATT GTT CCC GTG GGT CTA GGA GAT GAT GAT CAA TGC ATA GAA GAT GAT TTC ACT GCG
R I V P V G L G D D D Q C I E D D F T A
841/281
TGG CGG GAG TTG GTA TGG CCT GAA TTG GAT CAG TTG CTC CTT GAT GAA AGT GAT AAA ACA
W R E L V W P E L D Q L L L D E S D K T
901/301
TCT GTT TCT ACT CCT TAC ACT GCC ATC GTA CCA GAA TAC AGG GTA GTA TTC CAT GAT GCT
S V S T P Y T A I V P E Y R V V F H D A
961/321
ACT GAT GCA TCA CTA CAA GAC AAA AAC TGG AGC AAT GCA AAT GGC TAC ACT GTT TAC GAC
T D A S L Q D K N W S N A N G Y T V Y D
1021/341
1051/351

Figure 9b.

15/20

GTT CAA CAC CCA TGC AGA GCC AAT GTC GTT GTA AAG AAG GAG CTT CAC ACT CCA GTA TCT
 V Q H P C R A N V V V K K E L H T P V S
 1081/361 1111/371
 GAT CGT TCT TGT ATT CAT CTG GAA TTT GAC ATT TCT GGC ACT GGG CTC ACG TAT GAA ACA
 D R S C I H L E F D I S G T G L T Y E T
 1141/381 1171/391
 GGA GAC CAT GTC GGT GTT TAC TCT GAG AAT TGT GTT GAA GTT GTC GAG GAA GCA GAG AGG
 G D H V G V Y S E N C V E V V E E A E R
 1201/401 1231/411
 CTA TTG GGT TAC TCA TCA GAC ACC GTT TTT TCA ATC CAT GTC GAT AAA GAG GAC GGC TCA
 L L G Y S S D T V F S I H V D K E D G S
 1261/421 1291/431
 CCC ATT AGT GGA AGC GCT CTA GCT CCT CCT TTT CCA ACT CCC TGC ACT CTA AGA ACA GCA
 P I S G S A L A P P F P T P C T L R T A
 1321/441 1351/451
 CTA ACA CGA TAC GCT GAT CTG TTG AAT TCT CCC AAG AAG GCT GCT CTG CAT GCT TTG GCT
 L T R Y A D L L N S P K K A A L H A L A
 1381/461 1411/471
 GCT TAT GCA TCC GAT CCA AAG GAA GCG GAG CGA CTA AGG TAT CTT GCG TCT CCT GCT GGG
 A Y A S D P K E A E R L R Y L A S P A G
 1441/481 1471/491
 AAG GAC GAA TAC GCC CAG TGG ATA GTA GCT AGT CAG AGA AGT CTG CTA GTG GTC ATG GCT
 K D E Y A Q W I V A S Q R S L L V V M A
 1501/501 1531/511
 GAA TTC CCA TCA GCA AAG GCT CCA ATT GGG GTT TTC TTT GCA GCA GTA GCT CCT CGC TTG
 E F P S A K A P I G V F F A A V A P R L
 1561/521 1591/531
 CTG CCA AGA TAC TAT TCT ATT TCA TCT TCC AAT AGG ATG GTA CCA TCT AGG ATT CAT GTC
 L P R Y Y S I S S S N R M V P S R I H V
 1621/541 1651/551
 ACA TGT GCA TTG GTG CAT GAA AAA ACA CCG GCA GGT CGG GTT CAC AAA GGA GTG TGT TCA
 T C A L V H E K T P A G R V H K G V C S
 1681/561 1711/571
 ACC TGG ATG AAG AAT TCT GTG TCT TTG GAA GAA AAC CAT GAT TGC AGC AGC TGG GCA CCA
 T W M K N S V S L E E N H D C S S W A P
 1741/581 1771/591
 ATC TTT GTC AGG CAA TCC AAC TTC AAA CTT CCT GCT GAT TCT ACA GTA CCA ATT ATA ATG
 I F V R Q S N F K L P A D S T V P I I M
 1801/601 1831/611
 ATT GGT CCT GGG ACT GGA TTA GCT CCC TTT AGG GGA TTC ATG CAG GAG CGA TTA GCT CTG
 I G P G T G L A P F R G F M Q E R L A L
 1861/621 1891/631
 AAG AAT TCT GGT GTA GAA TTG GGA CCC GCT ATC CTC TTC TTT GGA TGC AGA AAC AGA CAG
 K N S G V E L G P A I L F F G C R N R Q
 1921/641 1951/651
 ATG GAT TAC ATA TAT GAA GAG GAG CTA AAC AAC TTT GTG AAA GAG GGA GCT ATC TCC GAA
 M D Y I Y E E E L N N F V K E G A I S E
 1981/661 2011/671
 GTT GTT GTT GCT TTC TCA CGT GAG GGA GCT ACC AAG GAA TAC GTA CAA CAT AAA ATG GCG
 V V V A F S R E G A T K E Y V Q H K M A
 2041/681 2071/691

Figure 9b (cont.).

16/20

GAG AAG GCT TCC TAC ATC TGG GAA ATG ATC TCT CAA GGT GCT TAT CTT TAT GTA TGT GGT
E K A S Y I W E M I S Q G A Y L Y V C G
2101/701 2131/711
GAT GCC AAG GGC ATG GCT AGA GAC GTA CAT CGA ACT CTC CAC ACC ATT GCC CAG GAA CAG
D A K G M A R D V H R T L H T I A Q E Q
2161/721 2191/731
GGA TCT TTG GAC AAC TCG AAG ACC GAA AGC TTG GTG AAG AAT CTA CAG ATG GAT GGA AGG
G S L D N S K T E S L V K N L Q M D G R
2221/741 2251/751
TAT CTA CGT GAT GTG TGG TGA TTG ATT TTT TCA GCA CGG TTA CAA TCT AGC TTC ATC AAA
Y L R D V W * L I F S A R L Q S S F I K
2281/761 2311/771
GAA CGC GCT TGA GAA GCA TAA ATC TTA GTT GCA GAG ATG TTG ATT TCA GAA GAA ATG CTT
E R A * E A * I L V A E M L I S E E M L
2341/781 2371/791
TAT ATA CTT GAG GTA GCG GAC ATT AAT CCT TTT CTC TCT CTC TAA ACT GTT AAT CCT GTA
Y I L E V A D I N P F L S L * T V N P V
2401/801 2431/811
AAA AAG GGA TTG CTG TTT GTG TTT-GCT CGC AAT CAA TTA AGT TAT ATT CTT TGG TCT ATG
K K G L L F V F A R N Q L S Y I L W S M
2461/821 2491/831
GCA TTC GTT AGA CAA ATA TAT TAA CGA GTT TGT CCG TTA TAT ATG ACA TAT GAA ACA AAA
A F V R Q I Y * R V C P L Y M T Y E T K
2521/841 2551/851
GAA CTT CTG TTT GGA GGA AGA GAA AAA AAA AAA AAA AA
E L L F G G R E K K K K

Figure 9b (cont.).

0005 827 218 019100 16/20

17/20

1 AAGCTTCAGAGTCTCTGCTAATT ATG GGT TCG AAT AAT TTA GCT AAT TCG ATT GAA TCG ATG TTA 65
 1 M G S N N L A N S I E S M L 14
 66 GGA ATA TCA ATA GGA TCA GAA TAT ATT TCT GAC CCA ATT TTC ATT ATG GTC ACA ACT GTA 125
 15 G I S I G S E Y I S D P I F I M V T T V 34
 126 GCT TCA ATG CTG ATT GGA TTT GGT TTC TTC GCA TGT ATG AAA TCT TCG TCT TCT CAA TCA 185
 35 A S M L I G F G F F A C M K S S S S Q S 54
 186 AAA CCT ATT GAA ACT TAT AAA CCA ATA ATT GAT AAA GAA GAA GAG GAG ATT GAA GTT GAT 245
 55 K P I E T Y K P I I D K E E E E I E V D 74
 246 CCT GGT AAA ATT AAG CTC ACT ATA TTT TTT GGT ACT CAG ACT GGT ACT GCT GAA GGA TTT 305
 75 P G K I K L T I F F G T Q T G T A E G F 94
 306 GCT AAG GCA TTG GCA GAA GAA ATT AAG GCA AAG TAC AAG AAA GCA GTT GTT AAA GTA GTT 365
 95 A K A L A E E I K A K Y K K A V V K V V 114
 366 GAC CTG GAT GAC TAT GCA GCC GAG GAT GAT CAA TAT GAA GAG AAA TTA AAG AAA GAG TCT 425
 115 D L D D Y A A E D D Q Y E E K L K K E S 134
 426 TTG GTG TTT TTC ATG GTA GCC ACT TAT GGT GAT GGT GAG CCA ACT GAC AAT GCT GCG AGA 485
 135 L V F F M V A T Y G D G E P T D N A A R 154
 486 TTT TAC AAA TGG TTC ACT CAG GAA CAT GAA AGG GGA GAG TGG CTT CAG CAA CTA ACT TAT 545
 155 F Y K W F T Q E H E R G E W L Q Q L T Y 174
 546 GGT GTT TTT GGT TTG GGT AAC CGT CAA TAC GAG CAT TTC AAC AAG ATC GCG GTA GAT GTG 605
 175 G V F G L G N R Q Y E H F N K I A V D V 194
 606 GAT GAG CAA CTC GGT AAA CAA GGT GCA AAG CGC ATT GTT CAA GTG GGG CTC GGT GAC GAT 665
 195 D E Q L G K Q G A K R I V Q V G L G D D 214
 666 GAT CAA TGC ATT GAA GAT GAT TTT ACT GCT TGG CGA GAA TTG TTG TGG ACT GAA TTG GAT 725
 215 D Q C I E D D F T A W R E L L W T E L D 234
 726 CAG TTG CTC AAA GAT GAG GAT GCT GCT CCT TCA GTG GCT ACA CCG TAT ATT GCT ACT GTT 785
 235 Q L L K D E D A A P S V A T P Y I A T V 254
 786 CCT GAA TAC AGG GTA GTG ATT CAC GAA ACT ACG GTC GCG GCT CTG GAT GAT AAA CAC ATA 845
 255 P E Y R V V I H E T T V A A L D D K H I 274
 846 AAT ACT GCT AAC GGC GAT GTT GCA TTT GAT ATT CTC CAT CCT TGC AGA ACC ATT GTT GCT 905
 275 N T A N G D V A F D I L H P C R T I V A 294
 906 CAA CAA AGA GAG CTC CAC AAA CCC AAG TCT GAT AGA TCC TGT ATA CAT CTG GAG TTC GAC 965
 295 Q Q R E L H K P K S D R S C I H L E F D 314
 966 ATA TCA GGC TCT TCC CTT ACA TAT GAG ACT GGA GAT CAT GTT GGT GTT TAT GCT GAG AAC 1025
 315 I S G S S L T Y E T G D H V G V Y A E N 334
 1026 TGC GAT GAA ACT GTC GAG GAA GCA GGG AAG CTG TTG GGT CAA CCC CTG GAT TTG CTG TTT 1085
 335 C D E T V E E A G K L L G Q P L D L L F 354
 1086 TCA ATT CAC ACG GAT AAA GAA GAC GGG TCA CCC CAG GGA AGC TCA TTA CCA CCT CCT TTC 1145
 355 S I H T D K E D G S P Q G S S L P P P F 374

Figure 10a

AC

18/20

1146	CCA	GGT	CCT	TGC	ACC	TTA	CGA	TCT	GCC	CTA	GCA	CGC	TAT	GCT	GAT	CTT	TTG	AAT	CCT	CCT	1205
375	P	G	P	C	T	L	R	S	A	L	A	R	Y	A	D	L	L	N	P	P	394
1206	AGA	AAG	GCT	TCT	CTG	ATT	GCT	CTG	TCC	GCT	CAT	GCA	TCT	GTA	CCC	AGT	GAA	GCA	GAG	AGA	1265
395	R	K	A	S	L	I	A	L	S	A	H	A	S	V	P	S	E	A	E	R	414
1266	TTG	CGC	TTT	TTG	TCA	TCA	CCT	CTG	GGA	AAG	AAT	GAG	TAT	TCA	AAA	TGG	GTA	GTT	GGA	AGT	1325
415	L	R	F	L	S	S	P	L	G	K	N	E	Y	S	K	W	V	V	G	S	434
1326	CAG	AGG	AGT	CTT	TTG	GAG	ATC	ATG	GCC	GAG	TTT	CCA	TCA	GCA	AAA	CCC	CCT	CTT	GGT	GTT	1385
435	Q	R	S	L	L	E	I	M	A	E	F	P	S	A	K	P	P	L	G	V	454
1386	TTC	TTT	GCT	GCA	GTA	GCC	CCT	CGC	TTA	CCG	CCT	CGA	TAC	TAT	TCT	ATC	TCA	TCC	TCT	CCT	1445
455	F	F	A	A	V	A	P	R	L	P	P	R	Y	Y	S	I	S	S	S	P	474
1446	AAG	TTT	GCT	CCC	TCA	AGA	ATT	CAT	GTG	ACG	TGT	GCT	TTA	GTA	TAT	GGT	CAA	AGC	CCT	ACC	1505
475	K	F	A	P	S	R	I	H	V	T	C	A	L	V	Y	G	Q	S	P	T	494
1506	GGA	AGG	GTT	CAC	CGA	GGA	GTG	TGT	TCG	ACA	TGG	ATG	AAG	CAT	GCA	GTT	CCT	CAG	GAT	AGC	1565
495	G	R	V	H	R	G	V	C	S	T	W	M	K	H	A	V	P	Q	D	S	514
1566	TGG	GCT	CCT	ATT	TTT	GTT	CGA	ACG	TCA	AAC	TTC	AAG	TTA	CCA	GCT	GAC	CCC	TCA	ACT	CCA	1625
515	W	A	P	I	F	V	R	T	S	N	F	K	L	P	A	D	P	S	T	P	534
1626	ATT	ATC	ATG	GTG	GGA	CCT	GGT	ACA	GGG	TTA	GCT	CCT	TTC	AGA	GGA	TTT	CTG	CAG	GAA	AGA	1685
535	I	I	M	V	G	P	G	T	G	L	A	P	F	R	G	F	L	Q	E	R	554
1686	ATG	GCC	CTC	AAG	GAA	AAT	GGT	GCT	CAA	CTT	GGC	CCA	GCA	GTG	CTC	TTT	TTC	GGA	TGT	AGG	1745
555	M	A	L	K	E	N	G	A	Q	L	G	P	A	V	L	F	F	G	C	R	574
1746	AAT	CGT	AAT	ATG	GAC	TTC	ATT	TAT	GAA	GAC	GAA	CTA	AAC	AAC	TTC	GTG	GAA	CGA	GGA	GTA	1805
575	N	R	N	M	D	F	I	Y	E	D	E	L	N	N	F	V	E	R	G	V	594
1806	ATT	TCG	GAG	CTA	GTT	ATT	GCC	TTT	TCA	CGT	GAA	GGG	GAA	AAG	AAG	GAA	TAT	GTT	CAA	CAT	1865
595	I	S	E	L	V	I	A	F	S	R	E	G	E	K	K	E	Y	V	Q	H	614
1866	AAG	ATG	ATG	GAG	AAA	GCA	ACG	GAT	GTA	TGG	AAT	GTG	ATA	TCA	GGG	GAC	GGT	TAT	CTC	TAT	1925
615	K	M	M	E	K	A	T	D	V	W	N	V	I	S	G	D	G	Y	L	Y	634
1926	GTG	TGT	GGT	GAT	GCC	AAG	GGA	ATG	GCC	AGA	GAT	GTC	CAT	CGC	ACG	TTG	CAT	ACC	ATT	GCC	1985
635	V	C	G	D	A	K	G	M	A	R	D	V	H	R	T	L	H	T	I	A	654
1986	CAA	GAA	CAG	GGA	CCC	ATG	GAA	TCA	TCT	GCT	GCC	GAA	GCT	GCA	GTA	AAG	AAA	CTC	CAA	GTT	2045
655	Q	E	Q	G	P	M	E	S	S	A	A	E	A	A	V	K	K	L	Q	V	674
2046	GAA	GAA	CGA	TAT	CTA	AGA	GAT	GTC	TGG	TGA	TCGA	ATG	TAG	CTTGCCAATcactag							2100
675	E	E	R	Y	L	R	D	V	W	*			M	*							2

Figure 10a (cont.).

19/20

1	tgcagccccgggggatccgcc	CT	ATG	GAA	CAA	ACT	GCG	GTT	AAA	GTC	TCT	TTG	TTT	GAT	CTA	TTT	64				
1			M	E	Q	T	A	V	K	V	S	L	F	D	L	F	14				
65	TCT	TCG	ATA	CTT	AAT	GGA	AAG	TTG	GAT	CCG	TCG	AAC	TTT	TCT	TCA	GAT	TCA	AGT	GCT	GCT	124
15	S	S	I	L	N	G	K	L	D	P	S	N	F	S	S	D	S	S	A	A	34
125	ATT	TTG	ATT	GAA	AAT	CGT	GAG	ATT	TTA	ATG	ATC	TTA	ACA	ACT	GCT	ATT	GCT	GTT	TTT	ATC	184
35	I	L	I	E	N	R	E	I	L	M	I	L	T	T	A	I	A	V	F	I	54
185	GGT	TGT	GGT	TTT	CTC	TAC	GTT	TGG	AGA	AGA	TCT	TCA	AAT	AAG	TCG	AGT	AAA	ATT	GTT	GAA	244
55	G	C	G	F	L	Y	V	W	R	R	S	S	N	K	S	S	K	I	V	E	74
245	ACT	CAG	AAA	TTG	ATC	GTT	GAA	AAG	GAA	CCA	GAA	CCT	GAA	GTT	GAT	GAT	GGA	AAG	AAG	AAG	304
75	T	Q	K	L	I	V	E	K	E	P	E	P	E	V	D	D	G	K	K	K	94
305	GTT	ACT	ATC	TTC	TTT	GGT	ACT	CAA	ACT	GGT	ACA	GCT	GAA	GGA	TTC	GCA	AAG	GCA	CTT	GCT	364
95	V	T	I	F	F	G	T	Q	T	G	T	A	E	G	F	A	K	A	L	A	114
365	GAA	GAA	GCA	AAA	GCA	AGA	TAT	GAA	AAG	GCA	ATC	TTT	AAA	GTG	ATT	GAT	CTG	GAT	GAT	TAC	424
115	E	E	A	K	A	R	Y	E	K	A	I	F	K	V	I	D	L	D	D	Y	134
425	GGA	GCA	GAT	GAT	GAT	GAA	TTC	GAA	GAG	AAA	TTG	AAA	AAG	GAA	ACT	ATA	GCT	CTT	TTC	TTT	484
135	G	A	D	D	D	E	F	E	E	K	L	K	K	E	T	I	A	L	F	F	154
485	TTG	GCT	ACC	TAT	GGA	GAT	GGT	GAA	CCT	ACA	GAT	AAT	GCT	GCA	AGA	TTT	TAT	AAA	TGG	TTC	544
155	L	A	T	Y	G	D	G	E	P	T	D	N	A	A	R	F	Y	K	W	F	174
545	ACA	GAG	GGA	GAG	AGG	GAA	ATG	TGG	CTC	CAG	AAT	CTT	CAA	TTT	GGT	GTC	TTC	GGT	CTA	GGC	604
175	T	E	G	E	R	E	M	W	L	Q	N	L	Q	F	G	V	F	G	L	G	194
605	AAT	AGA	CAG	TAT	GAG	CAT	TTC	AAT	AAG	GTG	GCA	AAG	GAG	GTG	GAC	GAG	ATA	CTC	ACT	GAA	664
195	N	R	Q	Y	E	H	F	N	K	V	A	K	E	V	D	E	I	L	T	E	214
665	CAG	GGT	GGG	AAG	CGT	ATT	GTT	CCC	GTG	GGT	CTA	GGA	GAT	GAT	GAT	CAA	TGC	ATA	GAA	GAT	724
215	Q	G	G	K	R	I	V	P	V	G	L	G	D	D	D	Q	C	I	E	D	234
725	GAT	TTC	ACT	GCG	TGG	CGG	GAG	TTG	GTA	TGG	CCT	GAA	TTG	GAT	CAG	TTG	CTC	CTT	GAT	GAA	784
235	D	F	T	A	W	R	E	L	V	W	P	E	L	D	Q	L	L	L	D	E	254
785	AGT	GAT	AAA	ACA	TCT	GTT	TCT	ACT	CCT	TAC	ACT	GCC	ATC	GTA	CCA	GAA	TAC	AGG	GTA	GTA	844
255	S	D	K	T	S	V	S	T	P	Y	T	A	I	V	P	E	Y	R	V	V	274
845	TTC	CAT	GAT	GCT	ACT	GAT	GCA	TCA	CTA	CAA	GAC	AAA	AAC	TGG	AGC	AAT	GCA	AAT	GGC	TAC	904
275	F	H	D	A	T	D	A	S	L	Q	D	K	N	W	S	N	A	N	G	Y	294
905	ACT	GTT	TAC	GAC	GTT	CAA	CAC	CCA	TGC	AGA	GCC	AAT	GTC	GTT	GTA	AAG	AAG	GAG	CTT	CAC	964
295	T	V	Y	D	V	Q	H	P	C	R	A	N	V	V	V	K	K	E	L	H	314
965	ACT	CCA	GTA	TCT	GAT	CGT	TCT	TGT	ATT	CAT	CTG	GAA	TTT	GAC	ATT	TCT	GGC	ACT	GGG	CTC	1024
315	T	P	V	S	D	R	S	C	I	H	L	E	F	D	I	S	G	T	G	L	334
1025	ACG	TAT	GAA	ACA	GGA	GAC	CAT	GTC	GGT	GTT	TAC	TCT	GAG	AAT	TGT	GTT	GAA	GTT	GTC	GAG	1084
335	T	Y	E	T	G	D	H	V	G	V	Y	S	E	N	C	V	E	V	V	E	354
1085	GAA	GCA	GAG	AGG	CTA	TTG	GGT	TAC	TCA	TCA	GAC	ACC	GTT	TTT	TCA	ATC	CAT	GTC	GAT	AAA	1144
355	E	A	E	R	L	L	G	Y	S	S	D	T	V	F	S	I	H	V	D	K	374

Figure 10b

1145	GAG	GAC	GGC	TCA	CCC	ATT	AGT	GGA	AGC	GCT	CTA	GCT	CCT	CCT	TTT	CCA	ACT	CCC	TGC	ACT	1204
375	E	D	G	S	P	I	S	G	S	A	L	A	P	P	P	T	P	C	T	394	
1205	CTA	AGA	ACA	GCA	CTA	ACA	CGA	TAC	GCT	GAT	CTG	TTG	AAT	TCT	CCC	AAG	AAG	GCT	GCT	CTG	1264
395	L	R	T	A	L	T	R	Y	A	D	L	L	N	S	P	K	K	A	A	L	414
1265	CAT	GCT	TTG	GCT	GCT	TAT	GCA	TCC	GAT	CCA	AAG	GAA	GCG	GAG	CGA	CTA	AGG	TAT	CTT	GCG	1324
415	H	A	L	A	A	Y	A	S	D	P	K	E	A	E	R	L	R	Y	L	A	434
1325	TCT	CCT	GCT	GGG	AAG	GAC	GAA	TAC	GCC	CAG	TGG	ATA	GTA	GCT	AGT	CAG	AGA	AGT	CTG	CTA	1384
435	S	P	A	G	K	D	E	Y	A	Q	W	I	V	A	S	Q	R	S	L	L	454
1385	GTG	GTC	ATG	GCT	GAA	TTC	CCA	TCA	GCA	AAG	GCT	CCA	ATT	GGG	GTT	TTC	TTT	GCA	GCA	GTA	1444
455	V	V	M	A	E	F	P	S	A	K	A	P	I	G	V	F	F	A	A	V	474
1445	GCT	CCT	CGC	TTG	CTG	CCA	AGA	TAC	TAT	TCT	ATT	TCA	TCT	TCC	AAT	AGG	ATG	GTA	CCA	TCT	1504
475	A	P	R	L	L	P	R	Y	Y	S	I	S	S	S	N	R	M	V	P	S	494
1505	AGG	ATT	CAT	GTC	ACA	TGT	GCA	TTG	GTG	CAT	GAA	AAA	ACA	CCG	GCA	GGT	CGG	GTT	CAC	AAA	1564
495	R	I	H	V	T	C	A	L	V	H	E	K	T	P	A	G	R	V	H	K	514
1565	GGA	GTG	TGT	TCA	ACC	TGG	ATG	AAG	AAT	TCT	GTG	TCT	TTG	GAA	GAA	AAC	CAT	GAT	TGC	AGC	1624
515	G	V	C	S	T	W	M	K	N	S	V	S	L	E	E	N	H	D	C	S	534
1625	AGC	TGG	GCA	CCA	ATC	TTT	GTC	AGG	CAA	TCC	AAC	TTC	AAA	CTT	CCT	GCT	GAT	TCT	ACA	GTA	1684
535	S	W	A	P	I	F	V	R	Q	S	N	F	K	L	P	A	D	S	T	V	554
1685	CCA	ATT	ATA	ATG	ATT	GGT	CCT	GGG	ACT	GGA	TTA	GCT	CCC	TTT	AGG	GGA	TTC	ATG	CAG	GAG	1744
555	P	I	I	M	I	G	P	G	T	G	L	A	P	F	R	G	F	M	Q	E	574
1745	CGA	TTA	GCT	CTG	AAG	AAT	TCT	GGT	GTA	GAA	TTG	GGA	CCC	GCT	ATC	CTC	TTC	TTT	GGA	TGC	1804
575	R	L	A	L	K	N	S	G	V	E	L	G	P	A	I	L	F	F	G	C	594
1805	AGA	AAC	AGA	CAG	ATG	GAT	TAC	ATA	TAT	GAA	GAG	GAG	CTA	AAC	AAC	TTT	GTG	AAA	GAG	GGA	1864
595	R	N	R	Q	M	D	Y	I	Y	E	E	E	L	N	N	F	V	K	E	G	614
1865	GCT	ATC	TCC	GAA	GTT	GTT	GTT	GCT	TTC	TCA	CGT	GAG	GGA	GCT	ACC	AAG	GAA	TAC	GTA	CAA	1924
615	A	I	S	E	V	V	V	A	F	S	R	E	G	A	T	K	E	Y	V	Q	634
1925	CAT	AAA	ATG	GCG	GAG	AAG	GCT	TCC	TAC	ATC	TGG	GAA	ATG	ATC	TCT	CAA	GGT	GCT	TAT	CTT	1984
635	H	K	M	A	E	K	A	S	Y	I	W	E	M	I	S	Q	G	A	Y	L	654
1985	TAT	GTA	TGT	GGT	GAT	GCC	AAG	GGC	ATG	GCT	AGA	GAC	GTA	CAT	CGA	ACT	CTC	CAC	ACC	ATT	2044
655	Y	V	C	G	D	A	K	G	M	A	R	D	V	H	R	T	L	H	T	I	674

Figure 10b (cont.).